

Name: Key

Day 2

AffKemmZ
Gen Chem
Final Study Guide
Day 2

2 Measurements

1. Express 549000000 in scientific notation.

- a) 5.49×10^{-8} c) 54.9×10^{-7}
☒ b) 5.49×10^8 d) 549×10^8

2. The number 0.000402 expressed in exponential notation is

- a) 4.02×10^{-5} c) 4.02×10^{-3}
☒ b) 4.02×10^{-2} d) 4.02×10^{-4}

3. The fundamental unit of mass in the metric system is the

- a) meter c) milliliter
☒ b) kilometer d) gram

4. If a 100. g sample of platinum metal has a volume of 4.67 mL, what is the density of platinum in g/mL?

- a) 0.0467 g/mL c) 467 g/mL
☒ b) 21.4 g/mL d) 2.14 g/mL

$$d = \frac{m}{V} = \frac{100g}{4.67mL} = 21.4 \frac{g}{mL}$$

5. An empty graduated cylinder weighs 55.26 g. When filled with 50.0 mL of an unknown liquid, it weighs 92.39 g. The density of the unknown liquid is:

- a) 50.0 g/mL c) 37.11 g/mL
☒ b) 0.592 g/mL d) 0.743 g/mL



$$\begin{aligned} \text{MASS OF LIQUID} &= \\ m_{\text{LIQ} + \text{GC}} - m_{\text{GC}} &= \\ 92.39g - 55.26g &= \end{aligned}$$

3 Elements

6. The symbol for the element silver is

- a) Si c) S
☒ b) Ag d) Au

$$d = \frac{m}{V} = \frac{37.13g}{50. mL} = .743 \frac{g}{mL}$$

7. A substance composed of two or more elements combined chemically in a fixed proportion by mass is:

- a) an atom c) a solid
☒ b) a compound d) a mixture

8. Which atomic particle determines the chemical behavior of an atom?

- a) nucleus ☒ c) electron
 b) neutron d) proton

9. Which atomic particle determines the element?

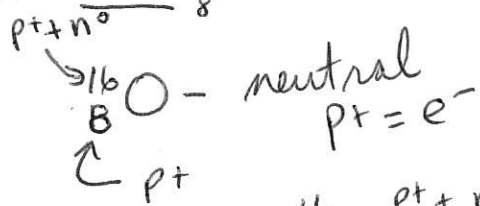
- a) nucleus ☒ c) electron
b) neutron d) proton

10. Which particle has the smallest mass?

- a) neutron c) helium nucleus
☒ b) electron d) proton

11. How many protons, electrons, and neutrons, respectively, does A neutral ^{16}O have?

- ☒ a) 8, 8, 8 c) 8, 10, 8
b) 8, 14, 8 d) 8, 18, 8

12. The number of neutrons in one atom of $^{206}_{82}\text{Hg}$ is

- a) 206 c) 288
b) 82 ☒ d) 124

$$\begin{array}{r} 206 \\ - 82 \\ \hline 124 \end{array}$$

13. An atom with 15 protons and 16 neutrons is an atom of

- a) Rh c) Pd
b) Ga ☒ d) P

$$AN = 15 = "P"$$

$$\begin{array}{r} 16 \quad p^+ + n^0 \\ - 8 \quad - (p^+) \\ \hline 8 \text{ neutrons} \end{array}$$

14. The number of protons in the nucleus of an atom is called its

- a) mass number c) valence
☒ b) atomic number d) isotope number

15. Which pair has approximately the same mass?

- ☒ a) a proton and a neutron
b) a neutron and an electron
c) a hydrogen, ^1_1H , and a deuterium, ^2_1H , atom
d) an electron and a proton

16. Rows (horizontal) on the periodic table are called _____ and columns (vertical) on the periodic tables are called _____.

- a) groups; periods c) non-metals; alkali metals
b) semi-metals; noble gases ☒ d) periods; groups

17. Isotopes are atoms of the same element that have different

- ☒ a) numbers of neutrons. c) numbers of protons.
b) numbers of electrons. d) numbers of nuclei

18. Which Element is a Noble Gas? — group 8A

- a) H d) N
☒ b) He d) C

19. Which Element forms a diatomic molecule?

- a) H
b) He
c) Na
d) C

20. What is the ionic charge of Magnesium?

- a) -1
b) -2
c) +1
d) +2

4 Atomic Theory

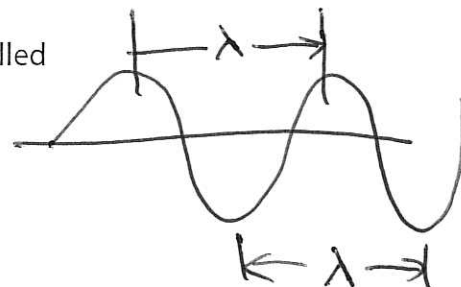
valence e^- 7 $7e^- = 7$ "A" group #

21. An element with 7 electrons in its highest main energy level is a(n)

- a) Alkali Metals
b) Alkaline Earth Metal
c) Halogen
d) Noble gas

22. The distance between two successive peaks or troughs in a wave is called

- a) the frequency
b) the speed
c) the amplitude
d) the wavelength



23. Which color of visible light has the least amount of energy?

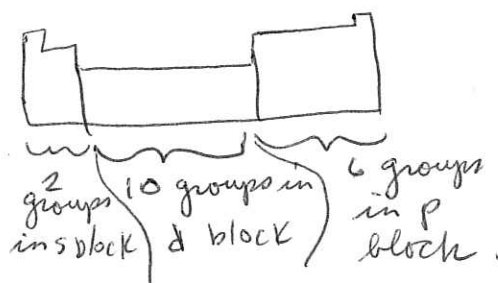
- a) green
b) red
c) yellow
d) violet

24. The lowest possible energy state of an electron is called its ground state)

- a) ground
b) neutral
c) excited
d) base
e) None of the above

25. What is the maximum number of electrons that a **d**-section can hold?

- a) 2
b) 6
c) 4
d) 10

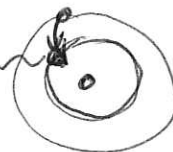


26. Which one of the following atoms has a partly filled d sublevel?

- a) Ca
b) Ni
c) Ar
d) Zn

27. For an electron in an atom to change from an excited state to the ground state,

- a) energy must be absorbed c) a neutron must be emitted
b) energy must be released d) the proton must make a transition



28. What element has the electron configuration $1s^2 2s^2 2p^6 3s^2 3p^4 4s^1$?

- a) Ca c) Rb
b) Sc d) K

1) ~~Period~~ 4 1st one in S block

1	H	
2	Li	Be
3	Na	Mg
4	K	Ca
5	Rb	Sr

s block

1	H ⁺	
2	Li	Be
3	Na	Mg
4	K	Ca
5	Rb	Sr

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29. Predict the charge of Fluorine when it becomes an ion.

- a) +1
- ☒ b) -1

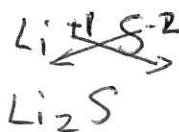
- c) +2
- d) -2

group 7A = (-1)

30. The formula of the compound formed in the reaction between lithium and sulfur is

- a) LiS_2
- b) LiS

- ☒ d) Li_2S
- e) Li_2S_3



Reduce +
Cross

31. The dots in a Lewis dot diagram represent

- a) electrons
- b) protons

- ☒ c) valence electrons
- d) neutrons